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10/586,928

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Richard C. Garner

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EXAMINER

RALEIGH, DONALD L

ART UNIT

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2809

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/586,928

Applicant(s)

GARNER ET AL.

Examiner

Donald L. Raleigh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/24/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8,10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Enokida et al (US Patent No. 3,549,937).

Reference Claim 1:

Enokida teaches:

A low-pressure discharge lamp [abstract line 1] having an essentially tubular discharge vessel [Fig.2 (1) and Col.2, lines 19-20] which consists of glass [Col.2,line 20] and

is sealed in a gas-tight manner at the ends,[Col.1, lines 41-44] having a filling comprising a noble gas mixture [Col.1, line 43, rare gas= inert gas = noble gas] and possibly mercury [Col.2, line16] and possibly having a fluorescent coating on the inner wall of the discharge vessel [Col.2, lines 18-20] in each case two power supply lines [Fig.3, (31,32) and Col.2, lines 49-50] being fused into the two ends

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of the discharge vessel [Fig.3 (30) and Col.2, line 50 thru the stem] in a gas-tight manner [Col.1, lines 41-43] and running essentially parallel to the longitudinal axis of the discharge vessel [See Fig.2 5 & 6 parallel to glass envelope and Fig.3 31 & 32 (not shown in envelope)] in this section, a filament electrode [Fig. 3, (33) Col.2, lines 52] which runs essentially transversely with respect to the longitudinal axis of the discharge vessel,[shown in Fig.3 running transversely] being fixed at the inner end of each of said two power supply lines [Fig.3 (33) between (31) & (32)] characterized in that, in order to increase the switching strength of the lamp during coldstarting operation, at least one further electrode [Fig.3, (34) & (35) and Col.2, line 54 (wire anodes)] consisting of a conductive material [They wouldn't be anodes if they were not conductive] is arranged in the region between the filament electrode [Fig.3, (33)] and the adjoining end of the discharge vessel [Fig.3 shows them between the filament (33) and the end of the tube (30) inserts in the end of the tube ] , one end of this further electrode [34,35] being electrically connected to one of the two power supply lines [31,32 in Fig.3].

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Reference Claim 2:

Enokida teaches:

characterized in that, in a vertical view of the plane formed by the two power supply lines [Fig.3 (31,32)] and the filament electrode [Fig.3 (33)], the further electrode [34,35] lies largely between the two power supply lines [Fig.3 shows them between power lines 31 & 32]

Reference Claim 3 :

Enokida teaches:

characterized in that the conductive material of the further electrode [34,35] has a high coefficient for secondary electron emission.[Applicant's spec. teaches that nickel, ruthenium and tungsten qualify (page 4, lines 1-6)].[Fig.3, shows getter material (36 & 37) on wire anodes (34 & 35). Col.2, lines 67-69 give nickel as one the possible getter materials]

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Reference Claim 4:

Enokida teaches:

characterized in that the conductive material of the further electrode [34,35] is nickel and/or ruthenium. [Col.2, lines 67-69 getter material on anodes is nickel]

Reference Claim 5:

Enokida teaches:

characterized in that the conductive material of the further electrode [34,35] is tungsten. [Col.2, line 72]

Reference Claim 6:

Enokida teaches:

characterized in that the further electrode [34,35] comprises a wire.[Col.2, line 55, wire anodes]

Reference Claim 8:

Enokida teaches:

characterized in that the further electrode [34,35] extends

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essentially parallel to the axis of the filament electrode [33] from the power supply line [31,32] to which it is electrically connected in the direction of the other power supply line . [Fig.3 shows this arrangement]

Reference Claim 10:

Enokida teaches:

characterized in that the free end of the further electrode [34,35] is bent back in the direction of the filament electrode [33]. [Fig.3 show the electrodes 34,35 protruding from the supply wires (31,32) in a direction away from the filament (33) and then bending back in a direction toward the filament]

Reference Claim 12:

Enokida teaches:

characterized in that the further electrode [34,35] is

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fixed to the power supply line [31,32] in a position in which it is rotated through an angle of less than or equal to  $45^{\circ}$  in relation to the axis of the filament electrode. [Fig.3 obviously shows the electrodes fixed in a position less than 45 degrees in relation to the axis of the filament. The axes of the filament and further electrode are essentially parallel. Also, the attachment point of the further electrode and the filament are essentially parallel.]

Reference Claim 13:

Enokida teaches:

characterized in that the lamp has two further electrodes [Fig.3, (34, & 35)], in each case one end of each further electrode [34,35] being connected to one of the two power supply lines [31,32] of the same filament electrode [33] such that a further electrode [34,35] is electrically connected to each of the two power supply lines [31,32].



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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enokida et al. (US Patent No. 3,549,937) in view of Chow et al (US Patent No. 5,905,339)

Reference Claim 7:

Enokida fails to teach:

characterized in that the wire has a wire diameter of between 50 and 150  $\mu\text{m}$ .

Chow teaches : (Col. 6, line 19-21) satisfactory nickel wire diameters of 125 to 250 $\mu\text{m}$ , which falls in the above range. This is also being used in a gas discharge lamp (abstract, line 1).

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It would have been obvious to one of ordinary skill in the art to apply the teachings of

Chow to Enokida and provide a wire electrode of a diameter between 50 and 150um

because this is a range that produces satisfactory results for wires containing nickel

.(Chow, lines 19-21)

Reference Claim 9:

Enokida fails to teach:

characterized in that the further electrode [34,35] extends

from the power supply line [31,32] to which it is

electrically connected for 40 to 60% of the distance

between the two power supply lines [31,32] in the direction

of other power supply line [31,32].

[Fig.3 of Enokida shows the electrodes (34 & 35) extending more than 40% of the distance between the 2 supply electrodes. Although, the specific requirement of 60% is not taught in the prior art, it is obvious that you would not want the further electrodes to extend close enough to the opposite supply lead to create an arc]

In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984) cert. denied, 469 U.S.830, 225 USPQ 232 (1984), the Federal Circuit held that , where the

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only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enokida et al (US Patent No. 3,549,937) in view of Mastuno et al (US Patent No. 4,879,493)

Reference Claim 11:

Enokida fails to teach:

characterized in that the free end of the further electrode [34,35] has a distance of  $(0.2 - 1) \times R_{\text{inner tube}}$

from the axis of the filament electrode [33],  $R_{\text{inner tube}}$

being the inner radius of the discharge vessel [1] in this section of the discharge vessel [1].

Mastuno teaches a low pressure discharge lamp (abstract line 1) with a inner tube diameter of 20 to 60mm (Col.12, lines 28-30), i.e. a radius of 10 to 30mm.

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Furthermore, he shows embodiments with electrode spacings of 4mm (Col.9, lines 55-57 and Fig. 3), 2mm (Col.10, lines 14-15 and Fig.4) and 2mm (Col.10, lines 31-33 and Fig.5). Arbitrarily choosing the 10mm tube radius, the separation of the electrodes would fall within the range required. i.e.  $0.2 \times R_{inner} = 2\text{mm}$ , the spacing in the prior art.

It would have been obvious to one of ordinary skill in the art to apply the teachings of Mastuno to Enokida and provide a spacing of the electrodes that obeys the relationship  $0.2 \times R_{inner}$  because this will minimize sputtering of the electrode material and prevent premature breakdown of the electrode.

### ***Conclusion***

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Raleigh whose telephone number is 571-270-3407. The examiner can normally be reached on Monday-Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Nguyen can be reached on 571-272-2402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLR

  
Keshia L. Rose  
Primary Examiner  
Sept. 25, 2007